

REMARKS/ARGUMENTS

Upon entry of this Amendment, which amends Claims 6, 15, and 20, and adds new Claims 21 and 22, Claims 1-22 remain pending in the present application.

Claim 14 has been withdrawn from consideration in response to an election requirement early on. Applicant reserves the right to pursue this claim in further filings.

Claims 2, 3, 9, and 10 have all been cancelled without prejudice in an earlier response. Such cancellation should not be taken as any admission of any sort. Applicant reserves the right to pursue these Claims and/or the subject matter of these Claims in further filings.

Applicant wishes to thank the Examiner for the telephonic interview of January 26, 2006. Applicant hopes that their comments with the Examiner were instructive regarding this application and the rejections, and hope that the interview will aid in the continuing examination of this application.

Status

In the October 28, 2005 Office Action (hereinafter "OA"), Claims 1, 4-8, and 15-18, and 20 were rejected as allegedly obvious under 35 U.S.C. §103(a) over U.S. Patent No. 6,317,589 to Nash (hereinafter "Nash") in view of U.S. Patent No. 3,769,580 to Black (hereinafter "Black"). Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Black in view of U.S. Patent No. 5,835,850 to Kumar (hereinafter "Kumar"). Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Black in view of U.S. Patent No. 4,492,960 to Hislop (hereinafter "Hislop"). Claims 13 and 19 stand rejected as allegedly obvious under 35

U.S.C. §103(a) over Nash, Black, and Hislop in view of U.S. Patent No. 5,734,683 to Hulkko (hereinafter “Hulkko”).

Claims 1, 4-8, 15-18, and 20 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash in view of U.S. Patent No. 6,417,715 to Hamamoto (hereinafter “Hamamoto”). Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Hamamoto in view of Kumar. Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Hamamoto in view of Hislop. Claims 13 and 19 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash, Hamamoto, and Hislop in view of Hulkko.

Claims 1, 4-6, 15-17, and 20 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over admitted prior art in view of Hamamoto. Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over admitted prior art and Hamamoto in view of Kumar. Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over admitted prior art and Hamamoto in view of Hislop. Claims 13 and 19 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over admitted prior art, Hamamoto, and Hislop in view of Hulkko.

Claims 1, 4-6, 15-17, and 20 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over U.S. Patent 4,475,088 to Beard (hereinafter “Beard”) art in view of Hamamoto. Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over Beard and Hamamoto in view of Kumar. Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Beard and Hamamoto in view of Hislop. Claims 13 and 19 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over admitted Beard, Hamamoto, and Hislop in view of Hulkko.

Applicant respectfully requests reconsideration of the claims in view of the above amendments and the comments below.

Rejections under 35 U.S.C. §103(a)

A. Standard

To establish and maintain a *prima facie* case of obviousness, the argument in the Office Action requires:

- i. “*some suggestion* or motivation ... to combine”;
- ii. “a reasonable expectation of success”; and
- iii. “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” (Emphasis added)

(M.P.E.P. 2143, *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Accordingly, when a rejection cannot show these items *in toto*, the rejection must be withdrawn.

B. Rejections based upon combinations of *Nash* and *Black*

Claims 1, 4-8, and 15-18, and 20 were rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash in view of Black. Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Black in view of Kumar. Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Black in view of Hislop. Claims 13 and 19 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash, Black, and Hislop in view of Hulkko.

1. Shortcomings of *Nash* and *Black* to Claims 1, 4-8, 11-13, 15-20

a. The combination of references would lead to an unusable item

Assuming *in arguendo* that the combination of *Nash* and *Black* would read on the various Claims (which Applicant outlines that they do not, *supra*), the Examiner's arguments cannot stand scrutiny if one were to combine the *Nash* and *Black* references, since this would produce an unworkable apparatus. Accordingly, for this reason, among the others cited, the *prima facie* test of obviousness cannot be sustained.

Nash discloses a system that makes a correction to one and only one item. In *Nash*, a determination is made of phase drift, and signal correction is performed on only one portion of the modulated signal. In the case of *Nash*, the only correction is applied either at the single voltage controlled phase shifter (item 314, Fig. 3), or to a voltage controlled phase shifter (item 314') residing solely in the quadrature path.

The dual delay line of *Black*, in distinction, produces two distinct signals separated by some delay amount. Accordingly, there is absolutely no way to include the device of *Black* in *Nash*, as *Nash* is engineered. This is since the architecture in *Nash* cannot accommodate the dual outputs of the dual delay line. In short, the simple movement of the dual delay line of *Black* into *Nash* will not produce a workable apparatus, since there is no way to accommodate multiple delay signals in the *Nash* disclosure without substantial modification and reworking of the overall *Nash* architecture.

Further, The Examiner overlooks that one cannot simply "drop in" the portion of *Black* without completely reengineering the entire input of *Nash*. If one were to magically drop the dual delay line into *Nash*, then *Nash* would have to be reengineered to

delete the oscillator 112, the phase shifter 314, and the optional phase shifter 314'. In short, the entire front end of Nash would have to be redesigned to a massive extent to accommodate the supposed "obvious" combination as suggested by the Examiner. Such a massive redesign of Nash to accommodate the Black art is evidence that the proposed combination is not obvious, as claimed.

The MPEP states that "[i]f the proposed modification or combination ... would change the principle of ... the prior art, then the teachings ... are not sufficient to render the claims *prima facie* obvious." (MPEP 2143.01 VI, citing *In re Ratti*, 270 F.2d 810). Further, the *Ratti* court stated that a combination is not obvious when "the suggested combination ... would require a substantial reconstruction and redesign of the elements shown [in the primary reference]." (*Id.*) Accordingly, since the proposed modification would require substantial modification to Nash to allow the Black apparatus to operate, and substantial changes would have to be made to the Black apparatus to allow it to operate within Nash (i.e. see section B.2.b below, showing that Black would have to be provided with a feedback mechanism to operate correctly), this combination smacks being of violative of the principles stated in MPEP 2143.02 VI.

b. The Examiner fails to provide a sufficient motivation to combine the references

In the Office Action, the Examiner states that "it would have been obvious to a person of ordinary skill in the art to combine in the receiver disclosed by Nash [and] the dual delay line disclosed by Black." The Examiner states that the motivation would be "to obtain an output signals (sic) of the dual delay lines out of phase with the input signal."

This is an insufficient motivation, since there is no motivation whatsoever in Nash to deal with the presence of *two or more* delayed signals. (See argument above). As noted previously, one cannot simply “drop in” the portion of Black without completely reengineering the entire input of Nash. This redesign of Nash to accommodate the Black art is evidence that the proposed combination is not obvious, as claimed.

c. The art is non-analogous

The Examiner makes a statement in the OA that Nash and Black “are reasonable pertinent (sic) to the particular problem which the applicant is concern (sic).” The OA also reads that such a reason would be “changing the phase of a periodic signal in 90 degrees is the same than (sic) delaying the signal $T/4$ [.]” This statement of equivalence has absolutely nothing to do with the claimed invention, nor does it pertain in any way, shape, or form to the issue at hand. In short, this statement in the OA does not seem to be pertinent since the subject matter of the application in question, the subject matter of Nash, nor the subject matter of Black care about such a statement of equivalence.

The subject matter of Black cannot be said to be “pertinent” to Nash, or, for that matter, the subject matter of the present application. Black is directed to a testing device for “measuring attenuation of a signal through delay lines.” (Black, abstract, line 2) The testing device does not care about excursions in a delay between successive signals in the slightest, as it *only* tests characteristics for a *single, one-time* delayed signal, with no provision for feedback or correction. Since there is no provision for any feedback or correction in Black, Black cannot be cited for suggesting that *any single signal* would have *any bearing* with any succeeding signal.

In this vein, the delay line of Black is used in a static manner. When one realizes the function that the delay line performs in Black (i.e. simply producing one and only one delay to be tested), one realizes that the use of the delay line of Black would not at all be useful for controlling a communications circuit in a dynamic manner.

First, the art of testing has little (or nothing) to do with communications circuits. Further, the reason articulated in the Office Action is one of equivalence, and does not address any issue that occurs in Nash or in Black. Accordingly, that reason as articulated falls short of being a valid reason. Finally, the rationale in Black is of limited purpose: derive *one* delay to test attenuation in a *single, one-time* delayed signal, with no provision for feedback or correction. Accordingly, the reason cited in the Office Action to place the dual delay line of Black into Nash is not present in Black, nor is there any reason in Nash for the specific use of a dual delay line.

Thus, the proposed combination of Black with Nash is improper, for at least this reason, among others. Since there is no valid reason or rationale to combine the references, the Examiner cannot show a *prima facie* case for the rejections of Claims 1, 4-8, 11-13, and 15-20. Accordingly, for these various reasons, among others, the rejections of these Claims are respectfully traversed.

2. Rejection of Claim 1 over *Nash* in light of *Black*

Claim 1 stands rejected as allegedly obvious over Nash in view of Black. This analysis is flawed for at least a number of reasons.

a. Claim 1

Claim 1, as amended, describes “[a] method of receiving a communications signal to produce two output signals in quadrature relation to one another[.]” In that method, a step of “deriving two *reference signals*” is undertaken, the step of “deriving ... using an *adjustable* delay line.” Furthermore, “an error signal” is formed, and “the error signal” “[is used] to *adjust* [the] dual delay line in order to *alter* a relative delay between the two reference signals.”

b. The *Black* reference fails to meet the language of Claim 1

The Examiner attempts to portray the delay line generator in *Black* as “adjustable.” A search of the *Black* reference finds absolutely no reference or inkling to any description of the delay line as “adjustable”. Applicant requests a specific reference in *Black* to this quality. In the alternative, Applicant respectfully traverses this rejection as failing to meet the *prima facie* case for obviousness, noted above.

Secondly, the *Black* reference does not show any “*adjusting* of the delay line ... to alter a relative delay between the two reference signals.” In the current application, the signals being generated have a specific purpose: to drive a complex communications circuit. In *Black*, the signals are just generated for the sole purpose of being tested. Thus, the assertion that the delay line is adjustable does not stand up to scrutiny.

c. The rejection does not meet the *prima facie* case

For the reasons noted above, among others, the use of *Black* and *Nash* does not show all the components of Claim 1. Accordingly, the *prima facie* case of obviousness

fails. Accordingly, the rejection of Claim 1 under Nash and Black is respectfully traversed for this reason, among others.

3. Rejection of Claim 6 over *Nash* in light of *Black*

Claim 6 stands rejected as allegedly obvious over Nash in view of Black. This analysis is flawed for at least a number of reasons.

a. Language of Claim 6

Claim 6, as amended, claims “[a] receiver for receiving a communications signal to produce two output signals in quadrature relation to one another[.]” An “adjustable phase shift network having a dual delay line” for deriving “*two* reference signals” recited. (Emphasis added.) Furthermore, an “error signal” is formed, and the “error signal” “[is used] to *adjust* [the] dual delay line in order to *alter* a relative delay between the two reference signals.” (Emphasis added.)

b. Shortcomings of the Cited Art

The Examiner states that “an adjustable phase shift network for deriving two reference signals” is present in Nash. The Examiner specifically identifies the voltage-controlled phase shifter (“figure 3 block 314”; OA p. 4, 2nd para.) as such an item. Applicant draws the Examiner’s attention to the detail of Fig. 3, item 314, which undoubtedly show only *one* output signal emanating from the cited portion. Thus, by the Examiner’s own admission, the cited (and supposed) “adjustable phase shift network ... for deriving two reference signals” only produces one reference signal.

Additionally, as noted above, the dual delay line of Black is not “adjustable”, nor is there any implication that the dual delay line “is operable to respond ... and adjust a relative delay between the two reference signals.” Nash does not have “two reference signals”, and therefore the cited portions of Nash cannot “adjust a relative delay between the two reference signals[.]” It is hard to adjust a relative delay between two things when one of them does not exist.....

c. Rejection is improper

The Examiner cannot show “adjustable phase shift network ... for deriving two reference signals[.]” Nor can the combination show “adjust[ing] a relative delay between the two reference signals[.]” For these reasons, among others, the rejection of Claim 6 over Nash and Black does not meet the *prima facie* case for obviousness. Accordingly, the rejection of Claim 6 on these bases is respectfully traversed.

4. Rejection of Claim 15 over Nash in light of Black

Claim 15 stands rejected as allegedly obvious over Nash in view of Black. This analysis is flawed for at least a number of reasons.

a. Claim 15

Claim 15, as amended, recites an apparatus with “a dual delay line” that “is configured to receive a local oscillator signal[.]” The “dual delay line” is also “configured to receive an error signal[.]” The dual delay line “generates” the I and Q reference signals.

b. The Nash and Black reference

Nash does not show a “dual delay line”, as admitted by the Examiner. Black does not show a dual delay line “configured to receive an error signal[.]” Accordingly, even if combined (see argument above, relating to the appropriateness of any such combination), a “dual delay line configured to receive an error signal” is not shown or suggested by these citations.

Furthermore, I and Q signals are not both “generated” by anything in Nash. Nash takes an oscillator output, and, at best, “generates” only a quadrature signal (i.e. the output of voltage controlled phase shifter 314, Fig. 3).

c. The rejection is improper

Nash and Black do not show portions of the claimed invention, as mentioned above. Accordingly, the *prima facie* case of obviousness cannot be shown with this combination. For this reason, the rejection of Claim 15 under Nash and Black is respectfully traversed.

5. Rejection of Claim 20 over Nash in light of Black

Claim 20 has many of the salient differences with regard to Nash and Black as stated earlier. For example, Claim 20 recites that the “dual delay line [is] operable to accept the error signal”, and that the dual delay line, “based on a value of the generated error signal, adjust[s] ... a relative delay between [the] in-phase and quadrature reference

signals[.]” As noted before, the dual delay line of Black has absolutely no provision for accepting any feedback signal, let alone an “error signal” such as recited in Claim 20.

For this reason, among others, the rejection of Claim 20 cannot be sustained based upon Nash in view of Black. Applicant respectfully traverses this rejection.

6. Rejection of Claims 4, 5, 7, 8, and 16-18 over *Nash* in light of *Black*

Claims 4, 5, 7, 8, and 16-18 stand rejected over Nash in light of Black. Claims 4 and 5 depend from Claim 1. Claims 7 and 8 depend from Claim 6. Claims 16-18 depend from Claim 15. As the rejections of the various base claims suffer from deficiencies, the rejections of these Claims suffer from those deficiencies as noted with respect to the respective base claims, among other deficiencies. Accordingly, the rejections of Claims 4, 5, 7, 8, and 16-18 over Nash and Black are respectfully traversed.

7. Rejection of Claim 11 over *Nash*, *Black* and *Kumar*

Claim 11 stands rejected as allegedly obvious over Nash and Black in view of Kumar. This analysis is flawed for at least a number of reasons.

Kumar does not cure the deficiencies related above with respect to Claim 6, the Claim which Claim 11 depends from. Kumar also does not suggest any cure to those shortcomings. Accordingly, for this reason, among others, Applicant respectfully traverses the rejection of Claim 11 over Nash, Black, and Kumar.

8. Rejection of Claims 12 and 18 over *Nash*, *Black* and *Hislop*

Claims 12 and 18 stand rejected as allegedly obvious over Nash and Black in view of Hislop. This analysis is flawed for at least a number of reasons.

Claim 12 depends from Claim 6, and Claim 18 depends from Claim 15. Hislop neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claims 12 and 18 over Nash, Black, and Hislop.

9. Rejection of Claims 13 and 19 over *Nash, Black, Hislop, and Hulkko*

Claims 13 and 19 stand rejected as allegedly obvious over Nash, Black, and Hislop in view of Hulkko. This analysis is flawed for at least a number of reasons.

Claim 13 depends from Claims 6 and 12, and Claim 19 depends from Claims 15 and 18. Hulkko neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claim 13 and 19 over Nash, Black, Hislop, and Hulkko.

C. Rejections based upon combinations of *Nash* and *Hamamoto*

Claims 1, 4-8, 15-18, and 20 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash in view of Hamamoto. Claim 11 stands rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Hamamoto in view of Kumar. Claims 12 and 18 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash and Hamamoto in view of Hislop. Claims 13 and 19 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over Nash, Hamamoto, and Hislop in view of Hulkko.

1. Shortcomings of *Nash* and *Hamamoto* to Claims 1, 4-8, 11-13, 15-20

a. The combination of references would lead to an unusable item

Assuming *in arguendo* that the Nash and Hamamoto citations read on the various Claims (which Applicant outlines that they do not, *supra*), the Examiner's arguments cannot stand scrutiny if one were to combine the Nash and Hamamoto references, since this would produce an unworkable apparatus. Accordingly, for this reason, among the others cited, the *prima facie* test of obviousness cannot be found.

Nash discloses a system that makes a correction to one and only one item, and based upon only one input. Hamamoto requires two different inputs to work. Further, the two different clocks are combined to render both an input clock and a semblance of a delay signal. It is unclear (at best) to suggest how one would create the dual-input of Hamamoto from the single input of Nash, nor how one would construct a workable device out of Nash using the structure of Hamamoto. At best, the mere placing of the Hamamoto delay structure into Nash leads to a massive reengineering of the Nash device to accommodate the Hamamoto device.

Further, the Hamamoto device requires complementary clock signals as its sole input to render any meaningful signal result. Thus, the proposed modification would have the Hamamoto reference accepting signals that are not complementary, thus rendering the usefulness of Hamamoto problematic at best in the proposed combination. Again, this is an indication that Hamamoto could not be properly combined with Nash for such a rejection.

Accordingly, the inclusion of the Hamamoto device into Nash, is, at best, highly problematic. Further, without extensive reengineering of Nash, the simple movement of the Hamamoto delay device into Nash will not produce a workable apparatus. As noted before, the presence of such levels of reengineering are also indicative of an improper combination at law.

b. The art is non-analogous

The Examiner makes a statement in the OA that Nash and Hamamoto “are reasonable pertinent (sic) to the particular problem which the applicant is concern (sic).” The OA also reads that such a reason would be “[c]hanging the phase of a periodic signal in 90 degrees is the same than (sic) delaying the signal $T/4$ [.]” This statement of equivalence has absolutely nothing to do with the claimed invention, nor does it pertain in any way, shape, or form to the issue at hand. In short, this statement in the OA does not seem to be pertinent since the subject matter of the application in question, the subject matter of Nash, nor the subject matter of Hamamoto care about such a statement of equivalence.

The subject matter of Hamamoto cannot be said to be “pertinent” to Nash, or, for that matter, the subject matter of the present application. Hamamoto is directed to providing *a single clock* signal to a memory device. There is no indication in any form to suggest that such memory clocking techniques are part and parcel of communications receivers, or for that matter delays between communication components. The memory device of Hamamoto does not care about delays between signal components in the slightest.

c. The conclusion must be that it is improper to combine Nash and Hamamoto

Thus, it is shown that the combination of Hamamoto with Nash is improper, for a multitude of reasons. Since there is no reason or valid rationale to combine the references, the Examiner cannot show a *prima facie* case for the rejections of Claims 1, 4-8, 11-13, 15-17, and 20. Accordingly, for these various reasons, among others, the rejections of these Claims are respectfully traversed.

2. Rejection of Claim 1 over *Nash* in light of *Hamamoto*

Claim 1 stands rejected as allegedly obvious over Nash in view of Hamamoto. This analysis is flawed for at least a number of reasons.

a. Claim 1

As mentioned previously, Claim 1 as amended, describes “[a] method of receiving a communications signal to produce two output signals in quadrature relation to one another[.]” In that method, a step of “deriving two *reference signals*” is undertaken. Furthermore, “an error signal” is formed, and “the error signal” “[is used] to *adjust* [the] dual delay line in order to *alter* a relative delay between the two reference signals.”

(Emphasis added.)

b. The *Hamamoto* reference fails to meet the language of Claim 1

The Hamamoto reference does not show any “*adjusting* of the delay line ... to alter a relative delay between the two reference signals.” Hamamoto shows a single output. Accordingly, there cannot be an “alter[ation] [of] a relative delay between the two signals.”

c. The rejection does not meet the *prima facie* case

For the reasons noted above, among others, the use of Hamamoto and Nash does not show all the components of Claim 1. Accordingly, the *prima facie* case of obviousness fails. Accordingly, the rejection of Claim 1 under Nash and Hamamoto is respectfully traversed for this reason, among others.

3. Rejection of Claim 6 over *Nash* in light of *Hamamoto*

Claim 6 stands rejected as allegedly obvious over Nash in view of Hamamoto. This analysis is flawed for at least a number of reasons.

a. Language of Claim 6

Claim 6 recites “[a] receiver for receiving a communications signal to produce two output signals in quadrature relation to one another[.]” An “adjustable phase shift network having a dual delay line” for deriving “two reference signals” recited. Furthermore, “an error signal” is formed, and “the error signal” “[is used] to *adjust* [the] dual delay line in order to *alter* a relative delay between the two reference signals.”

b. Shortcomings of the Cited Art

The Examiner states that “an adjustable phase shift network for deriving two reference signals” is present in Nash. The Examiner specifically identifies the voltage-controlled phase shifter (“figure 3 block 314”; OA p. 4, 3rd para.) as such an item. Applicant draws the Examiner’s attention to the detail of Fig. 3, item 314, which undoubtedly shows only *one* output signal emanating from the cited portion. Thus, by the Examiner’s own admission, the cited (and supposed) “adjustable phase shift network ... for deriving two reference signals” only produces one reference signal.

Additionally, as noted above, the dual delay line of Hamamoto does not show a dual delay line, let alone one that “is operable to respond ... and adjust a relative delay between the two reference signals[.]” Nash does not have “two reference signals”, and Hamamoto has one output, so therefore it cannot “derive two reference signals.” therefore the cited portions of Nash cannot “adjust a relative delay between the two reference signals”, since neither Nash nor Hamamoto have anything that could conceivably “derive two reference signals[.]”

c. Rejection is improper

The Examiner cannot show “adjustable phase shift network ... for deriving two reference signals[.]” Nor can the combination show “adjust[ing] a relative delay between the two reference signals[.]” For these reasons, among others, the rejection of Claim 6 over Nash and Hamamoto does not meet the *prima facie* case for obviousness. Accordingly, the rejection of Claim 6 on these bases is respectfully traversed.

4. Rejection of Claim 15 over Nash in light of Hamamoto

Claim 15 stands rejected as allegedly obvious over Nash in view of Hamamoto. This analysis is flawed for at least a number of reasons.

a. Claim 15

Claim 15 recites an apparatus with “a dual delay line” that is “configured to receive a local oscillator signal[.]” The “dual delay line” is also “configured to receive an error signal[.]” The dual delay line “generate[s]” the I and Q reference signals.

b. The *Nash* and *Hamamoto* reference

Nash does not show a “dual delay line”, as admitted by the Examiner. Hamamoto does not show a dual delay line “configured to receive a local oscillator signal[.]” Hamamoto shows a circuit that accepts external digital clock signals. Further, the Hamamoto reference “receives *complementary* [digital] clock signals.” Accordingly, even if combined (see argument above, relating to the appropriateness of any such combination), a “dual delay line configured to receive a local oscillator” is not shown or suggested by these citations.

Furthermore, I and Q signals are not both “generated” by anything in Nash. Nash takes an oscillator output, and, at best, “generates” only a quadrature signal (i.e. the output of voltage controlled phase shifter 314, Fig. 3). Hamamoto has nothing that “generates” I and Q signals, as well.

c. The rejection is improper

Nash and Hamamoto do not show portions of the claimed invention, as mentioned above. Accordingly, the *prima facie* case of obviousness cannot be shown with this combination. For this reason, the rejection of Claim 15 under Nash and Hamamoto is respectfully traversed.

5. Rejection of Claim 20 over *Nash* in light of *Hamamoto*

Claim 20 stands rejected as allegedly obvious over Nash in view of Hamamoto. This analysis is flawed for at least a number of reasons.

The combination of Nash and Hamamoto would require the same level of reengineering as stated above in relation to the rejection of the Claim with respect to the rejections based upon a combination of Nash and Black. This is an indication that this is not a proper combination.

Additionally, as noted before, Hamamoto requires the use of complementary signals to work properly. Again, this is not present in the Nash, and accordingly, Hamamoto will not work to produce the claimed items.

Accordingly, these rejections are problematic for the same reasons, among others. In this light, Applicant respectfully traverses the rejections based upon a combination of Nash and Hamamoto.

6. Rejection of Claims 4, 5, 7, 8, and 16-18 over *Nash* in light of *Hamamoto*

Claims 4, 5, 7, 8, and 16-18 stand rejected over Nash in light of Hamamoto. Claims 4 and 5 depend from Claim 1. Claims 7 and 8 depend from Claim 6. Claims 16-18 depend from Claim 15. As the rejections of the various base claims suffer from

deficiencies, the rejections of these Claims suffer from those deficiencies as noted with respect to the respective base claims, among other deficiencies. Accordingly, the rejections of Claims 4, 5, 7, 8, and 16-18 over Nash and Hamamoto are respectfully traversed.

7. Rejection of Claim 11 over *Nash, Hamamoto and Kumar*

Claim 11 stands rejected as allegedly obvious over Nash and Hamamoto in view of Kumar. This analysis is flawed for at least a number of reasons.

Kumar does not cure the deficiencies related above with respect to Claim 6, the Claim which Claim 11 depends from. Kumar also does not suggest any cure to those shortcomings. Accordingly, for this reason, among others, Applicant respectfully traverses the rejection of Claim 11 over Nash, Hamamoto, and Kumar.

8. Rejection of Claims 12 and 18 over *Nash, Hamamoto and Hislop*

Claims 12 and 18 stand rejected as allegedly obvious over Nash and Hamamoto in view of Hislop. This analysis is flawed for at least a number of reasons.

Claim 12 depends from Claim 6, and Claim 18 depends from Claim 15. Hislop neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claims 12 and 18 over Nash, Hamamoto, and Hislop.

9. Rejection of Claims 13 and 19 over *Nash, Hamamoto, Hislop, and Hulkko*

Claims 13 and 19 stand rejected as allegedly obvious over *Nash, Hamamoto, and Hislop* in view of *Hulkko*. This analysis is flawed for at least a number of reasons.

Claim 13 depends from Claims 6 and 12, and Claim 19 depends from Claims 15 and 18. *Hulkko* neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claim 13 and 19 over *Nash, Hamamoto, Hislop, and Hulkko*.

D. Rejections based upon combinations of admitted prior art and *Hamamoto*

1. Rejections of the Independent Claims based upon admitted prior art and *Hamamoto*.

Claims 1, 4-6, 15-17, and 20 stand rejected as allegedly obvious over admitted prior art in view of *Hamamoto*. This analysis is flawed for at least a number of reasons.

The combination of admitted prior art and *Hamamoto* would require the same level of reengineering as stated above in relation to the rejection of the Claims with respect to the rejections based upon a combination of *Nash* and *Hamamoto*. This is an indication that this is not a proper combination.

Additionally, as noted before, *Hamamoto* requires the use of complementary signals to work properly. Again, this is not present in the admitted prior art, and accordingly, *Hamamoto* will not work to produce the claimed items.

Accordingly, these rejections are problematic for the same reasons, among others. In this light, Applicant respectfully traverses the rejections based upon a combination of the admitted prior art and *Hamamoto*.

2. Rejection of Claims 4, 5, 16, and 17 over admitted prior art in light of *Hamamoto*

Claims 4, 5, 16, and 17 stand rejected over admitted prior art in light of Hamamoto. Claims 4 and 5 depend from Claim 1. Claims 7 and 8 depend from Claim 6. Claims 16-18 depend from Claim 15. The analysis used in the rejections is flawed for at least a number of reasons.

3. Rejection of Claim 11 over admitted prior art, *Hamamoto* and *Kumar*

Claim 11 stands rejected as allegedly obvious over admitted prior art and Hamamoto in view of Kumar. This analysis is flawed for at least a number of reasons.

Kumar does not correct the shortcoming noted above with respect to the rejection based upon the admitted prior art and Hamamoto. Nor does Kumar suggest these corrections. Accordingly, the rejections should be withdrawn.

4. Rejection of Claims 12 and 18 over admitted prior art, *Hamamoto* and *Hislop*

Claims 12 and 18 stand rejected as allegedly obvious over admitted prior art and Hamamoto in view of Hislop. This analysis is flawed for at least a number of reasons.

Hislop does not correct the shortcoming noted above with respect to the rejection based upon the admitted prior art and Hamamoto. Nor does Hislop suggest these corrections. Accordingly, the rejections should be withdrawn.

5. Rejection of Claims 13 and 19 over admitted prior art, *Hamamoto*, *Hislop*, and *Hulkko*

Claims 13 and 19 stand rejected as allegedly obvious over admitted prior art, Hamamoto, and Hislop in view of Hulkko. This analysis is flawed for at least a number of reasons.

Claim 13 depends from Claims 6 and 12, and Claim 19 depends from Claims 15 and 18. Hulkko neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claim 13 and 19 over admitted prior art, Hamamoto, Hislop, and Hulkko.

E. Rejections based upon combinations of *Beard* and *Hamamoto*

1. Content of *Beard*

Beard is the same item mentioned in the current application and which are cited as the admitted prior art mentioned above. In this respect, the rejections with Beard replacing the admitted prior art are essentially the same rejections addressed above. Accordingly, the same rationale as used in the arguments against the rejections of the Claims based upon combinations of the admitted prior art and Hamamoto are equally applicable to any rejections based upon Beard and Hamamoto.

2. Rejections of the Independent Claims based upon *Beard* and *Hamamoto*.

Claims 1, 4-6, 15-17, and 20 stand rejected as allegedly obvious over Beard in view of Hamamoto. This analysis is flawed for at least a number of reasons.

The combination of Beard and Hamamoto would require the same level of reengineering as stated above in relation to the rejection of the Claims with respect to the rejections based upon a combination of Nash and Hamamoto. This is an indication that this is not a proper combination.

Additionally, as noted before, Hamamoto requires the use of complementary signals to work properly. Again, this is not present in the admitted prior art, and accordingly, Hamamoto will not work to produce the claimed items.

Accordingly, these rejections are problematic for the same reasons, among others. In this light, Applicant respectfully traverses the rejections based upon a combination of Beard and Hamamoto.

3. Rejection of Claims 4, 5, 16, and 17 over *Beard* in light of *Hamamoto*

Claims 4, 5, 16, and 17 stand rejected over Beard in light of Hamamoto. Claims 4 and 5 depend from Claim 1. Claims 7 and 8 depend from Claim 6. Claims 16-18 depend from Claim 15. The analysis used in the rejections is flawed for at least a number of reasons.

4. Rejection of Claim 11 over *Beard*, *Hamamoto* and *Kumar*

Claim 11 stands rejected as allegedly obvious over Beard and Hamamoto in view of Kumar. This analysis is flawed for at least a number of reasons.

Kumar does not correct the shortcoming noted above with respect to the rejection based upon the admitted prior art and Hamamoto. Nor does Kumar suggest these corrections. Accordingly, the rejections should be withdrawn.

5. Rejection of Claims 12 and 18 over *Beard, Hamamoto and Hislop*

Claims 12 and 18 stand rejected as allegedly obvious over Beard and Hamamoto in view of Hislop. This analysis is flawed for at least a number of reasons.

Hislop does not correct the shortcoming noted above with respect to the rejection based upon Beard and Hamamoto. Nor does Hislop suggest these corrections. Accordingly, the rejections should be withdrawn.

6. Rejection of Claims 13 and 19 over *Beard, Hamamoto, Hislop, and Hulkko*

Claims 13 and 19 stand rejected as allegedly obvious over Beard, Hamamoto, and Hislop in view of Hulkko. This analysis is flawed for at least a number of reasons.

Claim 13 depends from Claims 6 and 12, and Claim 19 depends from Claims 15 and 18.


Hulkko neither cures the deficiencies related above with respect to Claim 6 and 15, respectively, nor suggests such an addition. Accordingly, for this reason, among others, Applicant respectfully traverses the rejections of Claim 13 and 19 over Beard, Hamamoto, Hislop, and Hulkko.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408-579-9216.

Respectfully submitted,



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